Amendments to the Drawings:

In Figure 13, N_7 is changed to N_3.

In Figure 15A, (x-y) over the box containing the number "26" is changed to (x,y).

REMARKS/ARGUMENTS

Claims 1 through 10 were pending in this application. The present Amendment does not amend these claims, but it adds new claims 11 through 20. Reconsideration and favorable action are respectfully requested.

Amendments to the Specification

Various typographical matters are corrected in the Specification, as summarized in the following table:

Paragraph number	Correction(s)
0004	"Deferrable" is changed to "Deformable" to correctly match the title of the recited patent.
0047	Reference number 186 is changed to183 to be consistent with the corresponding reference number in Figure 13 that is discussed in paragraph 0047
0055	"express" is changed to "expressed"
0058	"vertical" is added for consistency with paragraph [0053], and the filtered pixels are re-stated to be "horizontally adjacent" for consistency with page 13, line 8.

Amendments to the Drawings

In Figure 13, N_7 is changed to N_3. This is for consistency with paragraph 0046.

In Figure 15A, the indication of "(x-y)" over the box containing the number "26" is changed to "(x,y)". This is for consistency with paragraph 0054.

Rejections Under 35 U.S.C. § 103

Claims 1 and 7 are rejected under 35 U.S.C. § 103 as unpatentable over Watanabe (US 6,522,356) in view of Matama (US 5,905,817). Applicant respectfully traverses this rejection for the reasons set forth below.

Claim 1 recites, in its preamble, "circuitry ***for converting*** digital data representing an ***image*** for displaying ***on an orthogonal pixel array to*** digital data suitable for displaying said ***image on a diamond-shaped pixel array.***" Further, within its body, claim 1 recites "digital data signals representing said image for display on said orthogonal pixel array" and "circuitry for sub-sampling said filtered data for use on a diamond-shaped array..." The Examiner cites Watanabe as a primary reference and for showing various features relating to the above recitations, but Applicant respectfully submits that Watanabe does not show such features, as detailed below.

Watanabe deals with color filters for use with imaging apparatus and mentions them numerous times. Indeed, Watanabe notes U.S. Patent 3,971,065, and the Examiner is invited to review that patent as it illustrates, arguably better than Watanabe, the use of color filters by superimposing those filters on top of an imaging array of sensors.[1] Thus, the filters in Watanabe have nothing at all to do with, as recited in claim 1, ***converting*** digital data representing an ***image*** for displaying ***on an orthogonal pixel array to*** digital data suitable for displaying said ***image on a diamond-shaped pixel array***." Indeed, the Examiner cites to Figure 1C of Watanabe as corresponding to the claim 1 "diamond-shaped pixel array," but nowhere in Watanabe is there any discussion of a conversion from an orthogonal array to the diamond array shown in Figure 1C, as recited by claim 1. Indeed, Watanabe appears to suggest, as the Examiner is urged to independently confirm, that the orientation shown in Watanabe Figure 1C is just an alternative configuration of a color filter, but there is no conversion of anything else to that filter; thus, the Figure 1C filter is to be used in place of the orientation of either its Figure 1A or its Figure 1B filters.[2] Thus, nowhere does Watanabe disclose, teach, or suggest a conversion as between its Figure 8 and Figure 1C, as is suggested by the Examiner.

Watanabe also fails as a reference view of the additional claim 1 recitation of "circuitry for sub-sampling said filtered data for use on a diamond-shaped array ***by dropping data to be displayed for even pixels on all odd numbered orthogonal rows and dropping data intended for display for odd pixels on all even numbered rows***." Here again, the Examiner cites to Watanabe Figure 1C, but Watanabe does not discuss any ***dropping*** of data or any ***sub-sampling***. Indeed, the Examiner's attention is directed to Watanabe Figure 8 and its description, which relate to the reading of a video signal from its Figure 7 apparatus using the Watanabe color filter. In this context, Watanabe states:

> More specifically, referring to FIGS. 7 and 8, a video signal ***on each pixel is read at a time in a zigzag manner*** from two rows of pixel groups 301a and 301b connected to one vertical drive line 2 (see read group (1) in FIG. 8). Similarly, when a drive signal is applied to the next vertical drive line 2, a video signal ***on each pixel is read in a zigzag manner*** from two rows of pixel groups 301a' and 301b' connected to this vertical drive line 2 (see read group (2) in FIG. 8). Such a method for reading a video signal can be realized by contriving signal wiring in the case of an X-Y scan reading type imaging apparatus.[3]

Thus, in Watanabe, there is no teaching, discussion, or suggestion of sub-sampling or dropping data. Instead, Watanabe samples every pixel, and indeed in later embodiments appears to sample some pixels more than once (*see*, Watanabe Figure 12 and description thereof).

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[1] *See*, U.S. Patent 3,971,065, column 4, lines 50-55 and its Figures 3A and 3B.

[2] "FIGS. 1A through 1C show ***exemplary color filter arrangements*** used in a two-dimensional solid-state imaging apparatus according to the present invention, where the pitch of G pixels in the first direction is equal to that in the second direction." (Watanabe, col. 4, lines 61-65, emphasis added).

[3] Watanabe, column 8, lines 32-42.

In view of the above, Watanabe fails to show numerous aspects of claim 1, and the remaining references discussed by the Examiner also do not show these aspects. Stated alternatively, therefore, even if the references were combined as suggested by the Examiner,[4] they do not show numerous details in claim 1. Thus, Applicant respectfully requests withdrawal of the rejection of claim 1, and its dependent claims 2 through 6.

Claim 7 includes numerous recitations similar to those argued above as bases of distinction from Watanabe and, thus, Applicant respectfully requests withdrawal of the rejection of claim 7, and its dependent claims 8 through 10.

New Claims

New claims 11 through 20 are added and do not introduce new matter.

Claim 11 defines the orthogonal array, consistent for example with the illustration of Figure 11A and the Specification description thereof.

Claim 12 defines aspects of the Linear-Phase IIR Filter, consistent with Figure 13 and the Specification description thereof.

Claims 13 through 20 define additional aspects of the Linear-Phase IIR Filter, consistent with Figure 13, the Specification description thereof, and Equations 1 through 5 also set forth in the Specification.

Fees

A Petition for a one month extension of time is submitted herewith, thereby extending the deadline to respond from August 25, 2006 to September 25, 2006. The Commissioner is authorized to charge the fee for said Petition, and any other fees necessary to effect the present filing, to Deposit Account 20-0668 of Texas Instruments Incorporated, as also shown in the Petition submitted herewith.

The Commissioner is also authorized to charge any other fees necessary to effect the present filing to Deposit Account 20-0668 of Texas Instruments Incorporated, as also shown in the Per the FY2006 Fee Transmittal submitted herewith.

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[4] Applicant also notes that there is no motivation, other than hindsight, to combine the references as suggested by the Examiner. For example, Matama also does not relate to conversion of data from orthogonal to diamond shape arrays and, thus, there is no mutual field of endeavor so as to combine it with Watanabe.

Conclusion

Applicant respectfully requests that a timely Notice of Allowability be issued in this case.

Respectfully submitted,

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September 25, 2006

CERTIFICATE OF FACSIMILE TRANSMISSION
37 C.F.R. 1.8

The undersigned hereby certifies that this correspondence is being transmitted via facsimile, on September 25, 2006, to the United States Patent Office and more particularly to the Patent Office Central FAX Number of 571-273-8300 and addressed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Stephen L. Levine
Registry No. 33,413

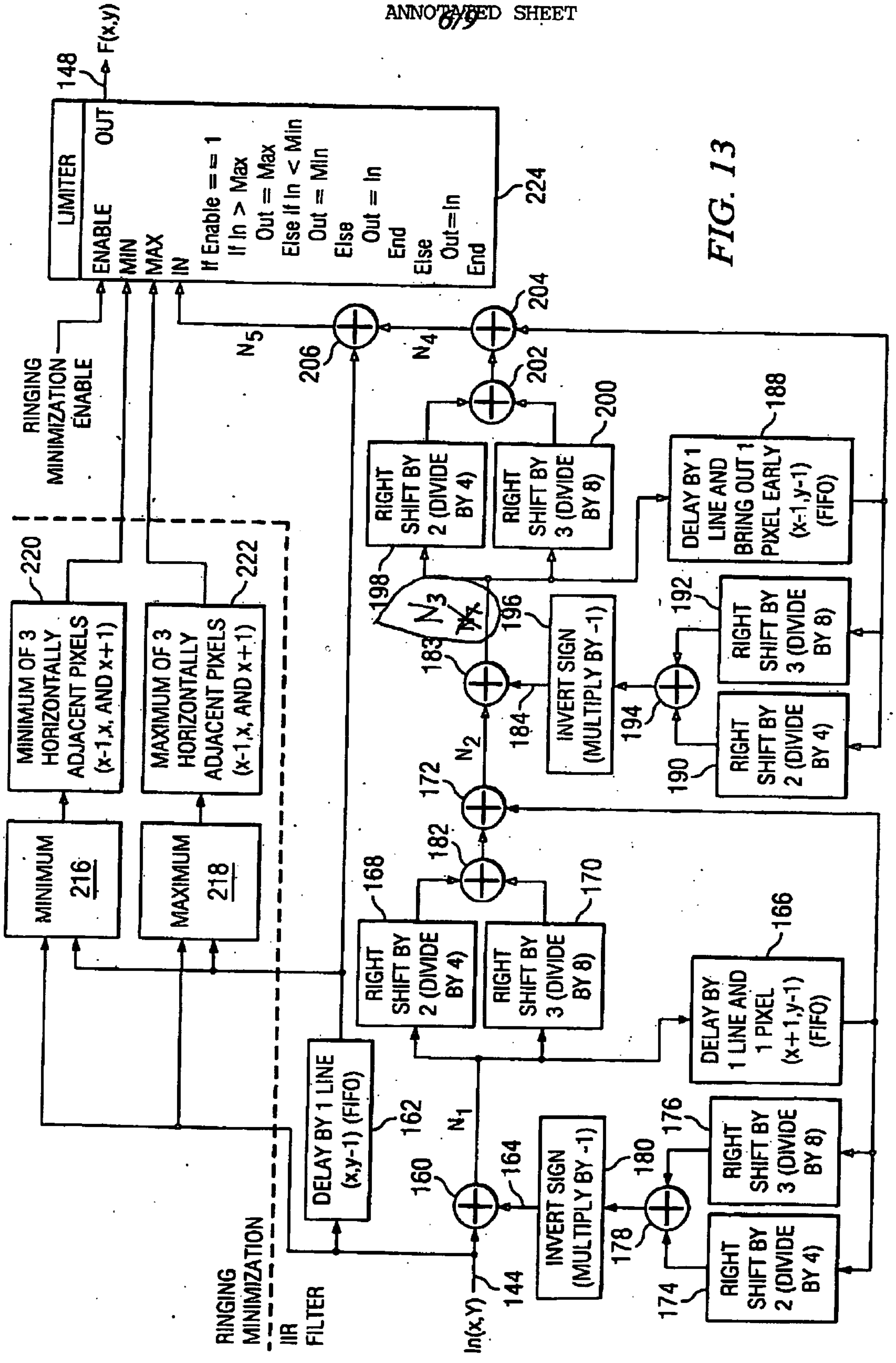
LIMITER
ENABLE
MIN
MAX
IN
OUT
If Enable = = 1
If In > Max
Out = Max
Else If In < Min
Out = Min
Else
Out = In
End
Else
Out=In
End
148
F(x,y)
224
RINGING MINIMIZATION ENABLE
N5
206
N4
204
202
200
RIGHT SHIFT BY 2 (DIVIDE BY 4)
RIGHT SHIFT BY 3 (DIVIDE BY 8)
DELAY BY 1 LINE AND BRING OUT 1 PIXEL EARLY (x-1,y-1) (FIFO)
188
198
N3
196
INVERT SIGN (MULTIPLY BY -1)
192
194
190
183
184
N2
172
182
168
170
166
DELAY BY 1 LINE AND 1 PIXEL (x+1,y-1) (FIFO)
MINIMUM OF 3 HORIZONTALLY ADJACENT PIXELS (x-1,x, AND x+1)
220
MAXIMUM OF 3 HORIZONTALLY ADJACENT PIXELS (x-1,x, AND x+1)
222
MINIMUM 216
MAXIMUM 218
DELAY BY 1 LINE (x,y-1) (FIFO)
162
N1
160
164
180
176
178
174
RINGING MINIMIZATION IIR FILTER
In(x,Y)
144

FIG. 13

ANNOTATED SHEET

FIG. 15A

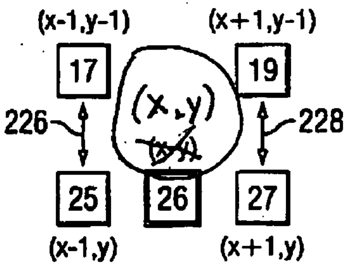

FIG. 15B

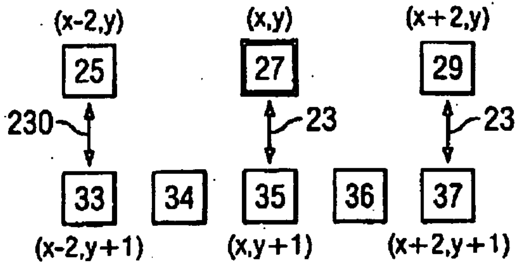

FIG. 16A

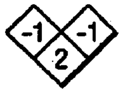

FIG. 16B

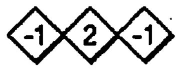

FIG. 17B

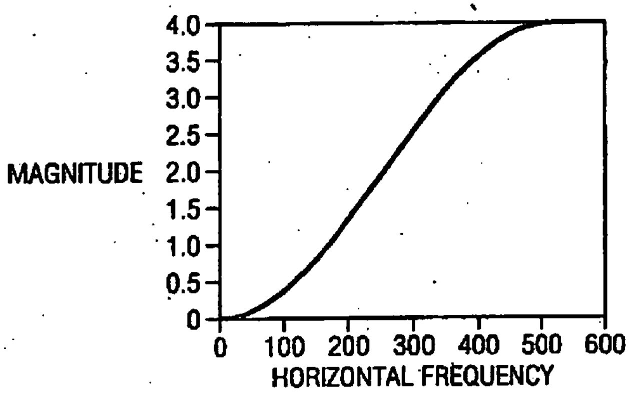

FIG. 17A